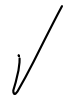Christopher Petrucelli

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Software Development 1

2 March 2018

<u>D&D Wiz</u>

For my semester project, I want to create a program that would serve as a multi-purpose tool for running and generating a Dungeons and Dragons campaign. Myself and my friends from my home town still play Dungeons and Dragons over the internet every week, but I can no longer just draw or print the maps, characters, and enemies for my own use as the dungeon master, or person who runs the game and pits challenges against the other characters. In my project, I hope to create tools to assist in the generation of random encounters, maps, treasures, etc. based on certain inputs, such as the players' levels, desired difficulty, and location (among other things). To create such a program, I will need to do a variety of different things. I will need to create classes for characters and enemies, using a variety of different parameters. The character class will likely be the most complex of these, where I would store a variety of information about player characters including health points, primary attribute scores and modifiers, player skills and proficiencies, gold pieces (summed and converted from copper, silver, gold, and platinum pieces), and probably more upon further reflection. The enemy class might just be used to keep track of the enemy name, health points, challenge rating, and preferred environments (so the players wouldn't face a swamp monster in the desert!). Based on the characters levels, I can calculate a challenge rating for a variety of different difficulties, and then use those two parameters to generate rewards for completing fights or dungeons. I can also

use the challenge rating and environment to generate random encounters for the players. I will also likely input some of the huge number of magical items and equipment, and then use the challenge rating to randomly give the players item rewards on top of the gold rewards they will receive. Going on from there, it would be interesting to see if I could learn how to use graphical windows in Java and try to use those to generate random dungeon/building layouts. Using a two-dimensional array to define the size, I could try to generate a layout of rooms that are all connected at least by one path and display them using white and black squares. I could also investigate modifying those layouts further after the initial generation, adding hazards, treasure, or encounters. Unfortunately, I don't yet know much about the capabilities of Java's graphical windows so I'm not sure what of that I would be able to accomplish. For convenience, I could also add dice rollers for the various dice you might need to roll.